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| SAWYER LAW GROUP LLP | | | EXAMINER | |
| P.O. BOX 51418 | | | PARK, JEONG S | |
| PALO ALTO, CA 94303 | | | | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2154 | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/763,135

Applicant(s)

DAN ET AL.

Examiner

Jeong S. Park

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 1/22/2004.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application
- ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 1-33 are objected to because of the following informalities:

In claim 1, line 14, the phrase "at least one of the remote clustered systems" should be corrected as --at least one of the plurality of remote clustered systems-- for clear understanding of the claim. Similar correction should be made for claims 27 and 29;

In claim 22, line 1, the phrase "a plurality of remote clustered systems" should be corrected as --the plurality of remote clustered systems-- for clear understanding of the claim; and

In claim 31, line 11, the phrase "plurality of remote clustered systems" should be corrected as --the plurality of remote systems-- for clear understanding of the claim.

Appropriate correction is required.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 27 and 28 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Independent claim 27 is drawn towards a computer program product having instruction codes. This is just an abstract idea can be written in a computer programming code. The computer program product defined in the specification is not in

one of the statutory categories. The specification provides no explicit and deliberate definition of the computer program product.

Claim 28, which is dependent on claim 27, does not add any further definition of the computer program product to the claim and thus is rejected for the same reason.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 6-9, 11, 27, 29, 31 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Masters et al. (hereinafter Masters)(U.S. Patent No. 7,051,098 B2) in view of Aziz et al. (hereinafter Aziz)(U.S. Patent. No. 6,597,956 B1).

Regarding claims 1, 27 and 29, Masters teaches as follows:

a method or a system for supporting a transaction application and a parallel application (at least one task too complex for a single computer to perform, wherein the task inherently includes any kind of applications, see, e.g., col. 1, lines 24-34) across a plurality of remote clustered systems based on a service level agreement (the Resource Management Architecture provides the capability of dynamically allocating, and reallocating, applications to hosts as needed in order to maintain user-specified system performance goals, see, e.g., col. 4, lines 12-17), the method comprising:

monitoring a performance of a local clustered system (host monitors monitor the status and performance of hosts A-N, see, e.g., col. 10, lines 18-39) in response to the

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transaction application (application-level instrumentation function group FG2 in figure 2B provides capabilities for collecting and correlating application-provided data such as application statuses, states, performance and internally detected errors, see, e.g., col. 12, lines 1-19), based on the service level agreement (QoS: quality of service) and a workload (host load analyzer FG40 figure 2A, see, e.g., col. 18, lines 39-41) of the clustered system (the data collected from the application-level instrumentation function group FG2 is sent to QoS managers FG44A-FG44N in figure 2A to determine the performance based on the QoS defined for each application, see, e.g., col. 13, lines 1-36);

analyzing the performance of the local clustered system to identify a violation of the service level agreement, if any, by the local clustered system (QoS managers FG44A-FG44N determine if applications are satisfying their assigned requirements, see, e.g., col. 37, lines 39-47);

in response to the identified violation, dynamically reallocating a local computing resource assigned to the parallel application to the transaction application that requires an additional computing resource to meet the service level agreement (when an application is not meeting its performance requirements the QoS managers will request the resource manager FG42 scale up a new copy or move the application to a new host, see, e.g., col. 37, lines 47-58); and

resource allocation decision-making (FG4 in figure 2A) determines the health and state of the distributed environment and the options that are available for attempting to recover from faults or unacceptable performance, see, e.g., col. 8, lines 9-34); and

Masters does not teach the communication between clustered systems even though it is inherent within any systems providing Internet connection.

Aziz teaches as follows:

Virtual Server Farm (VSF)(applicant's clustered system, VSF1 and VSF2 in figure 4A to 4D) is a part of a computing grid logically allocated to each of a plurality of enterprises or organizations on their demands (see, e.g., col. 5, lines 4-22);

Idle Pool (400 in figure 4A to 4D, interpreted as applicant's remote clustered system) comprises large number of computing elements that are kept in reserve and computing elements from the Idle Pool may be assigned to a particular VSF (applicant's local clustered system (see, e.g., col. 7, lines 55-64); and

steps of utilizing the Idle Pool for VSF needs an additional computing element (see, e.g., col. 8, lines 13-34).

It would have been obvious for one of ordinary skill in the art at the time of the invention to modify Masters to include managing a plurality of Virtual Server Farms (applicant's clustered systems) as taught by Aziz in order to efficiently allocate available computing resources on Grid system among a plurality of clustered systems (VSFs) based on demand.

Regarding claims 6 and 7, Aziz teaches as follows:

the remote clustered systems (Idle Pool is the gathered computing resource from the computing grid, see, e.g., col. 7, lines 55-64) are geographically co-located (single location) with the local clustered system or remote (wide area) from the local clustered

system (the computing grid may exist in a single location or may be distributed over a wide area, see, e.g., col. 6, lines 20-27).

It would have been obvious for one of ordinary skill in the art at the time of the invention to modify Masters to include managing a plurality of Virtual Server Farms (applicant's clustered systems) as taught by Aziz in order to efficiently allocate available computing resources on Grid system among a plurality of clustered systems (VSFs) based on demand.

Regarding claim 8, Masters teaches as follows:

the service level agreement defines an acceptable performance of the clustered system in response to the transaction application (when an application is not meeting its performance requirements the QoS managers will request the resource manager FG42 scale up a new copy or move the application to a new host, see, e.g., col. 37, lines 47-58).

Regarding claim 9, Masters teaches as follows:

the service level agreement defines an acceptable performance of the clustered system in response to the parallel application (when an application is not meeting its performance requirements the QoS managers will request the resource manager FG42 scale up a new copy or move the application to a new host, see, e.g., col. 37, lines 47-58 and col. 18, lines 42-47); and

QoS manager monitors all of the requirements associated with a single application path defined in the system specification files (FG32 in figure 2A, see, e.g., col. 15, lines 17-36)(see, e.g., col. 37, lines 59-65).

Regarding claims 11 and 32, Masters teaches as follows:

the violation comprises an actual violation of the service level agreement by the performance of the clustered system (see, e.g., col. 39, lines 3-19).

Regarding claim 31, Masters teaches as follows:

a method for supporting a transaction application and a parallel application (at least one task too complex for a single computer to perform, wherein the task inherently includes any kind of applications, see, e.g., col. 1, lines 24-34) by a clustered system that implements a service level agreement (user-specified system performance goals, see, e.g., col. 4, lines 12-17 and Quality of Service (QoS)), the method comprising:

specifying a performance parameter for the service level agreement (host monitors monitor the status and performance of hosts A-N, see, e.g., col. 10, lines 18-39);

system specification files (FG32 in figure 2A) are created by the user and provide a method of the software and hardware components configuration of the distributed computing environment for each application (see, e.g., col. 15, lines 11-60);

invoking a server allocation utility, wherein the performance parameter is made available to the server allocation utility for allocating computing resources to meet the service level agreement (the Resource Management Architecture provides the capability of dynamically allocating, and reallocating, applications to hosts as needed in order to maintain user-specified system performance goals, see, e.g., col. 4, lines 12-17); and

receiving a level of performance by the clustered system within the parameter of

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the service level agreement for a contracted execution of the transaction application and the parallel application, wherein in response to a violation of the service level agreement (when an application is not meeting its performance requirements the QoS managers will request the resource manager FG42 scale up a new copy or move the application to a new host, see, e.g., col. 37, lines 47-58), the server allocation utility dynamically reallocates a computing resource that is assigned to the parallel application, to the transaction application that requires an additional computing resource (resource allocation decision-making FG4 in figure 2A determines the health and state of the distributed environment and the options that are available for attempting to recover from faults or unacceptable performance, see, e.g., col. 8, lines 9-34).

Masters does not teach the communication between clustered systems even though it is inherent within any systems providing Internet connection.

Aziz teaches as follows:

Virtual Server Farm (VSF)(applicant's clustered system, VSF1 and VSF2 in figure 4A to 4D) is a part of a computing grid logically allocated to each of a plurality of enterprises or organizations on their demands (see, e.g., col. 5, lines 4-22);

Idle Pool (400 in figure 4A to 4D, interpreted as applicant's remote clustered system) comprises large number of computing elements that are kept in reserve and computing elements from the Idle Pool may be assigned to a particular VSF (applicant's local clustered system (see, e.g., col. 7, lines 55-64); and

steps of utilizing the Idle Pool for VSF needs an additional computing element (see, e.g., col. 8, lines 13-34).

It would have been obvious for one of ordinary skill in the art at the time of the invention to modify Masters to include managing a plurality of Virtual Server Farms (applicant's clustered systems) as taught by Aziz in order to efficiently allocate available computing resources on Grid system among a plurality of clustered systems (VSFs) based on demand.

6. Claims 2-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Masters et al. (hereinafter Masters)(U.S. Patent No. 7,051,098 B2) and Aziz et al. (hereinafter Aziz)(U.S. Patent. No. 6,597,956 B1) as applied to claim 1 above, and further in view of Merkling et al. (hereinafter Merkling)(U.S. Patent No. 5,841,869).

Regarding claims 2-5, Masters teaches as follows:

networked computers cooperate in performing at least one task too complex for a single computer to perform, wherein the task inherently includes at least one complex applications (see, e.g., col. 1, lines 24-34); and

system specification files (FG32 in figure 2A) are created by the user and provide a method of the software and hardware components configuration of the distributed computing environment for each application (see, e.g., col. 15, lines 11-60).

Even though Masters teaches implicitly the claim limitation, Merkling further teaches as follows:

heavy transactions applications and parallel applications often require dynamic process migration and load balancing to meet the fundamental properties required for such resource management (see, e.g., col. 12, lines 18-31).

It would have been obvious for one of ordinary skill in the art at the time of the invention to modify Masters to include managing both transaction and parallel applications under same resource management as taught by Merklings in order to efficiently allocate different application process to the proper host computer(s) in grid environment.

7. Claims 10, 12-14 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Masters et al. (hereinafter Masters)(U.S. Patent No. 7,051,098 B2) and Aziz et al. (hereinafter Aziz)(U.S. Patent. No. 6,597,956 B1) as applied to claims 1 and 31 above, and further in view of Gopalan et al. (hereinafter Gopalan)(U.S. Pub. No. 2003/0208523 A1).

Regarding claims 10, 12 and 33, Masters teaches as follows:

history servers (40 in figure 1A) is used to drive line graph charts for specific hosts selected at the host display in order to provide CPU load information, network load information and memory utilization information (see, e.g., col. 46, lines 40-61).

Even though Masters teaches implicitly the claim limitation, Gopalan explicitly teaches as follows:

a predictive real-time Service Level Agreements (SLAs) monitoring system by a detailed analysis of traffic flows with reduced monitor data flow across network;

a suitable combination of offline and real-time processing of historical and current traffic data;

the system analyzes the historical traffic patterns of a network to determine a set of critical SLAs; and

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the system analyzes the gathered data from the master and slave probes to forecast future violations of the SLA and generate operator SLA violation alarms (see, e.g., abstract).

It would have been obvious for one of ordinary skill in the art at the time of the invention to modify Masters to include predictive real-time SLAs monitoring system as taught by Gopalan in order to efficiently analyze the historical traffic patterns, forecast future violations of the SLAs and generate operator SLA violation alarms.

Regarding claim 13, Masters teaches as follows:

the computing resource comprises an under-utilized computing resource (networked computers cooperate in performing at least one task too complex for a single computer to perform, wherein it is inherent to have under utilized computer among the networked computers, see, e.g., col. 1, lines 24-34, see, e.g., col. 5, lines 33-39).

Regarding claim 14, Aziz teaches as follows:

the remote computing resource (computing resource assigned to the Idle Pool) comprises a computing resource that is processing a lower-priority workload (Idle Pool, 400 in figure 4A to 4D, comprises large number of computing elements that are kept in reserve and computing elements from the Idle Pool may be assigned to a particular VSF, see, e.g., col. 7, lines 55-64).

8. Claims 15-26, 28 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Masters et al. (hereinafter Masters)(U.S. Patent No. 7,051,098 B2) and Aziz et al. (hereinafter Aziz)(U.S. Patent. No. 6,597,956 B1) as applied to claims 1,

27 and 29 above, and further in view of Halkosaari (U.S. Pub. No. 2006/0056607 A1).

Regarding claims 15-26, Aziz teaches as follows:

global grid manager (1304 in figure 13) provides centralized management and services for any number of grid segments (1302 in figure 13, interpreted as applicant's clustered system) and the global grid manager collects billing is used to bill for services provided by computing grids (see, e.g., col. 19, lines 31-42).

Aziz does not teach explicitly a handshaking between two clustered systems in terms of the allocation cost but the handshaking between a sender and a receiver is inherent in any communication protocols.

Halkosaari teaches a method of cost sharing negotiation as follows:

a subscriber initiates a service involving one or more other subscribers may propose the cost for the service be shared by all of the participants (see, e.g., page 2, paragraph [0032], lines 1-4);

SIP INVITE message containing a cost sharing request to ask for approval or rejection of the proposal (see, e.g., page 3, paragraph [0033], lines 1-8);

acceptance, rejection or counter proposal are returned by the terminating user equipment to the originating user equipment (see, e.g., page 3, paragraph [0034]);

the originating user equipment then notify the user equipments which have agreed to share the total cost (see, e.g., page 3, paragraph [0035], lines 1-4); and

final confirmation of the cost sharing plan by the terminating equipments is provided by the return of a SIP OK message to the originating equipment (see, e.g., page 3, paragraph [0035], lines 6-12).

It would have been obvious for one of ordinary skill in the art at the time of the invention to modify Masters and Aziz to include a method of cost negotiation for communication sessions between two parties as taught by Halkosaari in order to efficiently communicate in terms of the communication or allocation cost before determining an outsourcing party as a computing resource in grid environment.

Double Patenting

9. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

10. Claims 1-5, 8-13, 27, 29 and 31-33 are provisionally rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 1-4, 5-10, 14, 24 and 31-33 respectively of copending Application No. 10/762,916.

Because the copending application teaches all the limitations of the applicant's claims as listed above.

This is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeong S. Park whose telephone number is 571-270-

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1597. The examiner can normally be reached on Monday through Thursday 7:30 - 5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan Flynn can be reached on 571-272-1915. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JP

October 17, 2007

NATHAN FLYNN
SUPERVISORY PATENT EXAMINER

